ACES Model Composition and Development Toolkit to Support NGATS Concepts, Phase II

Completed Technology Project (2008 - 2010)

Project Introduction

Building on recent advances in formal agent specification, protocol composition, model composers, and visualization capabilities provided by development environments such as eclipse, the key innovation in this effort is the development of an agent model composition toolkit that will enable NASA ACES users to design and compose agents, activities, and models to meet specific design requirements. From a users perspective the front end of the toolkit will be very similar in spirit to a Simulink

REG

or a Matrix-X

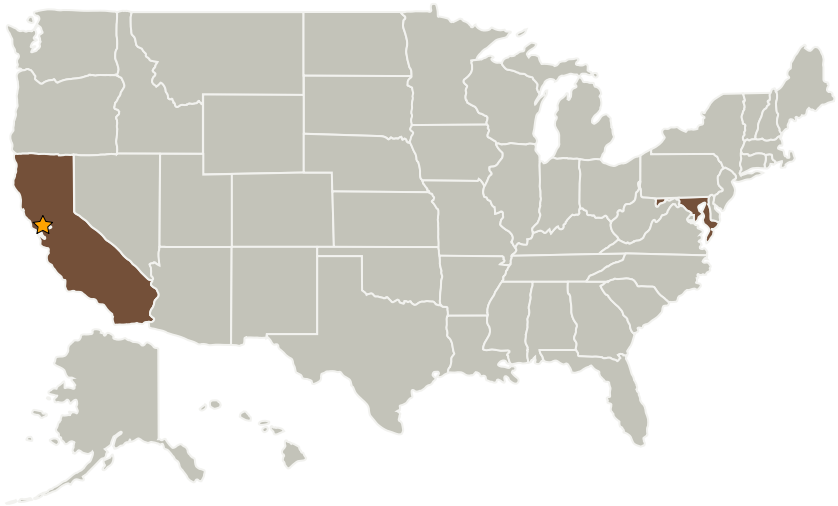
REG

where users can drag and drop from a library of models, interconnect the inputs and outputs of these models, and run a simulation. In addition to composing models, a key feature provided by this toolkit is a family of "physical language specific adaptors" that will allow users to import domain models written in other languages such as Matlab

REG

. Integral to the Phase II effort will enhancements to the ACES-X, TAP architecture to enable plug-n-play of detailed 4-D trajectories in the terminal area, the development of a Command and Control framework for ACES-X and the development of a library of C2 models to enhance the capabilities of the ACES-X TAP.

Primary U.S. Work Locations and Key Partners



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Ames Research Center (ARC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California
Intelligent Automation, Inc.	Supporting Organization	Industry	Rockville, Maryland

Primary U.S. Work Locations	
California	Maryland

Project Transitions

January 2008: Project Start

January 2010: Closed out

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX11 Software, Modeling, Simulation, and Information Processing
  - TX11.1 Software Development, Engineering, and Integrity
    - TX11.1.7 Frameworks, Languages, Tools, and Standards